SANDIA NATIONAL LABORATORIES
CIVILIAN RADIOACTIVE WASTE MANAGEMENT OFFICE OF SCIENCE & TECHNOLOGY and INTERNATIONAL PROGRAM

GLOSSARY

Revision 0

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	(printed name)	(signature)	date

CHANGE HISTORY

Revision	Description	Effective Date
0	This is the initial version of this document.	05/12/2004

1.0 Definitions

The definitions listed here are a compilation of the definitions used in the Quality Assurance Procedures (QAP) and Experimental Implementing Procedures (EIP). Included in parenthesis following each definition is the QAP(s) and/or EIP(s) where that particular definition is used.

Access Control - The methods established to permit authorized and prevent unauthorized access to software. Controls may consist of restricting access to the computer during off-hours or providing password security for the computer or the software. These controls may be provided on either a software-specific or a system-specific basis. (QAP 19-1)

Access Control Memorandum – Memorandum which documents access control methods for one or more codes. (QAP 19-1) (e-mail is acceptable)

Adequacy –The adequacy of a Quality Assurance (QA) program being assessed is determined by evaluating (during an audit or surveillance) compliance with upper-tiered requirements. (QAP 18-1)

Administrative Change – With regard to procurement documents, a change made to a contract or a purchase requisition (PR) that does not affect the scope of work or the QA requirements specified in either of these documents. Administrative changes consist of changes to only the following aspects of procurement documents:

- Period of performance,
- Ceiling price,
- Funds availability,
- Estimated cost reporting,
- Allowable travel costs,
- Allowable charges,
- Delegation of authority (identification of sdr),
- Sandia points-of-contact,
- Billing/invoicing instructions,
- Information on Sandia work week, work hours, and holidays,
- Safety, health, environment, property, and fire protection,
- Government-furnished property/material,
- Copyrights for Sandia directed technical performance,
- Requirements concerning university employees,
- Contractor requests for Sandia restricted area access,
- Wage determination,
- Rate revisions,
- Termination article--multi-year contracts. (QAP 4-1)

Administrative Staff – Personnel assigned responsibility for administrative support tasks. (QAP 2-1)

Analysis - The rational investigation of a natural or artificial phenomenon to discover principles that underlie the phenomenon. More formally, analysis is the process of defining, investigating, validating, reviewing, and documenting the study of a system or component of a system. (QAP 20-1)

Assessment – The act of reviewing, inspecting, testing, checking, conducting surveillances, audits or otherwise determining and documenting whether items, processes, or services meet specified requirements. Assessments are performed by or for management. Assessments may be internal or external. (QAP 18-1)

Assessment Task Lead - The SNL OSTI individual who is responsible for the evaluation of work activities to determine audit and surveillance needs, establishing assessment schedules, and the coordination of available auditor and Lead Auditor resources. (QAP 18-1)

Audit - A planned and documented independent assessment to determine by investigation, examination, or evaluation of objective evidence, the adequacy, and compliance with established procedures, codes, standards, instructions, drawings, and other applicable requirements; and the effectiveness of implementation. An audit should not be confused with surveillance or inspection activities performed for the sole purpose of process control or product acceptance. (QAP 4-1, 18-1)

Auditor - An individual who is qualified to perform assigned portions of an audit. (QAP 18-1)

Audit Team - An audit team consists of a Certified Lead Auditor and may include qualified auditors and technical specialists. (QAP 18-1)

Audit Team Leader (ATL) - An audit team leader is a certified lead auditor who has been assigned to lead an audit team. (QAP 18-1)

Authentication - The act of attesting that the information contained within a document or record package is accurate, complete, legible, and appropriate to the work accomplished. (QAP 17-1)

Author - The individual responsible for preparing and revising QAPs, EIPs, and other controlled documents, coordinating reviews, and resolving comments on those documents. (QAP 5-1)

Authorized Derivative Classifier (ADC) – A person authorized to determine that a document or material is unclassified or classified as Restricted Data, Formerly Restricted Data, and/or National Security Information and at what level based on classification guidance or source documents.

Baseline – Software and associated documentation that has been placed under configuration control and approved for use. (QAP 19-1)

Calibration Provider - The person or organization responsible that performs calibration of M&TE. (QAP 12-1)

Causal Codes – A code letter from Appendix F of QAP 16-1 used to identify the cause of a deficiency by origin and root cause representing elements of NQA-1. (QAP 16-1)

Certify - To confirm formally in writing as true, accurate, or genuine. (QAP 2-1)

Chain-of-Custody (CoC) - Chain-of-custody is the process of documenting the possession of samples from the time they are collected or created until sample disposition. (QAP13-1)

Cited Reference – Any document referenced in final reports. (QAP 17-1)

Code - A computer software item ("code" is used interchangeably with "software"). (QAP 19-1)

Code Team/Sponsor – The Lead Code Sponsor, Code Subject Matter Expert, and the Code Developer make up the team, which can expand or shrink as necessary depending on the complexity of the development effort. Individual(s) who oversees the Software Quality Assurance (SQA) process for a particular software item. (QAP 19-1)

Complete – With regard to records, the point at which no additional information is added to a record or record package. Authentication by signature (or potentially by electronic means) or clear issuance by an organization (e.g., SAND Report cover) is the final act to signify the condition of completeness. Complete also refers to “appropriate to the work accomplished.” (QAP 17-1)

Compliance Decision Software – Software that is used to demonstrate compliance with disposal regulations or whose output is relied upon to make design, analytical, operational, or compliance-based decisions with respect to the performance of the waste confinement processes. (QAP 19-1)

Condition Adverse to Quality (CAQ) - An all-inclusive term used in reference to any of the following: deviations, findings, malfunctions, deficiencies, and technical inadequacies. Adverse conditions include those identified during the performance of specified work affecting quality as well as during verification, surveillance, audit, trending, and management assessment activities. (QAP 16-1, 18-1)

Controlled Document (CD) - A document that contains or specifies technical or quality requirements, prescribes the conduct of processes, or establishes the design of systems important to waste isolation, nuclear safety, or demonstration of regulatory compliance. Examples include, but are not limited to, Procedures (QAPs), Test Plans (TPs), Experimental Implementing Procedures (EIPs), Glossary.

Controlled Documents Database - The database used for the tracking of distribution and status of paper copies of controlled documents and for production of a Controlled Document master list. Contains and generates information to include:

- the names and organizations of recipients of paper copy controlled documents;
- the control number of the copy assigned to each document holder;
- the date of copy distribution and receipt; and
- the current status of the document (active or inactive). (QAP 6-2)

Corrective Action - Measures taken to remediate, investigate and preclude the repetition of conditions adverse to quality. (QAP 16-1, 18-1)

Corrective Action Request (CAR) - The mechanism used to document, track, and correct conditions adverse to quality. (QAP 16-1)

Corrective Action Tracking System - A database used to document the status of all CARs initiated by SNL. This system will be maintained through the end of the project. (QAP 16-1)

Corrected During the Audit/Surveillance – An isolated condition or finding that only requires remedial action and verification prior to audit/surveillance closeout. (QAP 16-1, 18-1)

Data Acquisition System (DAS) Software – Software used to control test equipment, obtain electrical readings from the equipment, and convert the readings to scientific or engineering units. (QAP 19-1, 20-1)

Design Document (DD) – A software document that describes the major components of the software design: the theoretical basis, embodied mathematical model, control flow, control logic, data structure(s), and the allowed or prescribed ranges for data inputs and outputs in a manner that can be implemented into software. (QAP 19-1)

Developed Software - Software developed or modified by SNL. (QAP 19-1)

Dual Storage – Records stored at facilities at locations sufficiently remote from each other to eliminate the chance of exposure to a simultaneous hazard. (QAP 17-1)

Editorial Changes – The following items are considered editorial or minor changes:

- correcting grammar or spelling
- renumbering sections or attachments
- updating organizational titles (no change in responsibility)
- changing nonquality affecting schedules
- revising or reformatting forms, providing the original intent of the form has not been altered
- changing attachments marked “Example”, “Sample”, or exhibits that are clearly intended to be representative only
- incorporating clarification changes that don’t affect the purpose of the document (QAP 6-1)

E-Mail Record - Any information transmitted or received by the electronic mail system that meets the definition of a QA record. All header/address information must be included and authenticated. (QAP 17-1)

Experimental Implementing Procedure (EIP) - A EIP is a quality assurance implementing procedure which specifies requirements for the performance of a specific activity, or for implementation of project specific QA requirements. An example of an EIP for the performance of a specific activity would be an EIP which directs how a specific piece of data collection equipment is to be set-up or operated. An EIP for project specific QA implementation is exemplified by EIP 13-1, which prescribes OSTI project specific sample control practices. (QAP 5-1)

Finding - An adverse condition that is a deviation from established policies, procedures, instructions, drawings, or other required documents and compels documented corrective action by the organization subject to the assessment. (QAP 18-1)

Implementation Document - A document which contains the source listing and documentation of the process used to convert the source code to an executable. (QAP 19-1)

Independent Technical Reviewer – In order for an individual to qualify as an independent technical reviewer, the individual must not have performed, contributed to, or directed the work being reviewed, and must not stand to either gain or be adversely affected by the results of the work or the success of the reviewed document. (QAP 6-1, 20-1)

Initiator - The individual who originates a CAR, Form QAP 16-1-1, identifying an adverse condition. This may be any individual performing activities in support of the SNL OSTI scope of work for the OSTI (e.g., SNL personnel, Lead Auditor, SNL QA personnel, suppliers). (QAP 16-1)

Installation and Checkout - The phase of software development where the validated executable code is installed on the production computer and regression testing is conducted to ensure the software performs in the same manner as documented in the Validation Document. (QAP 19-1)

Job Description - The characterization of a job by position and area for which personnel must qualify based on education and previous experience. (QAP 2-1)

Just-in-Time (JIT) Procurements - SNL's procurement system for commercial items (products). (QAP 4-1)

Lead Auditor - An individual trained, qualified, and certified to organize and direct an audit, report audit findings, and evaluate corrective actions. (QAP 18-1)

Life Cycle – A model for software development that starts when a software product is conceived and ends when the software is retired. This model consists of and ensures documentation of technical adequacy. (QAP 19-1)

Lifetime Records – Records required to be maintained for the useful life of the items to which they pertain while the items are installed in the plant or facility (life of the item), or for the lifetime of the equipment, facilities, or programs to which the records apply. (QAP 17-1)

Lognormal Distribution – A probability distribution in which the logarithm of the variable in question follows a normal distribution.

Loguniform Distribution – A probability distribution in which the logarithm of the variable in question follows a uniform distribution.

Machine Readable Media – Records media such as computer discs or tape, videotape, optical discs, etc., that require the use of a device (computer system, videotape player/television) for the records content to be viewed by humans. (QAP 17-1)

Machine Readable Records - Records that are recorded on machine-readable media. (QAP 17-1)

Management Review - A review conducted by one or more management personnel. Management may include technical leads and team leaders. (QAP 1-1)

Manual Inspection – Refers to manual activities which do not involve numerical manipulations. These include visual inspection of table reformatting or plotting, and concurrence with qualitative acceptance criteria such as trends in results due to input parameter variations. (QAP 19-1)

Mean – the expectation of a random variable: i.e., the sum (or integral) of the product of the variable and the PDF over the range of the variable. There is sample mean and mean: the mean, μ, of a distribution is one measure of the central tendency of a distribution, analogous to the arithmetic average of a series of numbers. The sample mean, $\bar{x}$, is the arithmetic average of values in an empirical data set.

Median – The value of a random variable at which its CDF takes the value 0.5; i.e., the 50^{th} percentile point.

Measuring and Test Equipment (M&TE) - Equipment used to indicate, measure and acquire data, as well as equipment used as standards in verifying the performance of other M&TE. (QAP 12-1)

Mode – The value of a random variable at which PDF takes its maximum value. The mode of a set of data is the value in the set that occurs most often.

Non-Quality Assurance Record (NQ) – A record that meets the definition of a record, but does not meet the criteria of a quality assurance (QA) record. (QAP 17-1)

Nonrecord Material – Materials generated by non OSTI activities or as identified as follows: Nonrecord material includes extra copies of records which are maintained in the Records Center, preliminary drafts of documents (when so marked), Sandia Corporate or contractor specific information, and professional organization or personal materials. (QAP 17-1)

Normal Distribution – a probability distribution in which the PDF is a symmetric, bell shaped curve of bounded amplitude extending from minus infinity to plus infinity. (Tierney, 1990)

Nuclear Audit - An audit of a QA program with requirements derived from 10 CFR 50, Appendix B, ASME NQA-1, or other similar nuclear QA standards. (QAP 18-1)

Observation – Documentation of marginally acceptable conditions that, if not controlled, might later escalate into a deviation or finding. Observations are not findings and are normally considered closed at the end of the audit or surveillance. A response may be requested. (QAP 18-1)

On-line Document - The on-line version of a controlled document maintained in electronic format with the equivalent protection and controls required for documents subject to controlled distribution and access control measures to prevent unauthorized alterations or modifications of such document. (QAP 6-1)

Parameters – All numbers or distributions of numbers used as initial input to a PA numerical model. A parameter is defined by its material name and property name.

Parameter Error – When incorrect data are used for a parameter in a PA calculation.

Performance Assessment (PA) – A term used to denote all analysis activities carried out to (1) evaluate the long-term ability of a repository system to effectively isolate waste by complying with applicable regulatory performance objectives; and (2) to provide the basis for demonstrating regulatory compliance.

Primitive Baseline - Software and existing documentation placed under configuration control prior to approval for use. (QAP 19-1)

Principal Investigator (PI) - The technical staff member responsible for the completion of a particular investigation, design, or analysis. (QAP 2-1)

Probability Density Function – A real-valued function whose integral over any set gives the probability that a random variable has values in this set.

Production Baseline/Production Software - Baseline software that has been installed and checked out per QAP 19-1, hence is approved for use. (QAP 19-1)

Program Description – A document which describes the organizational structure and mission of the SNL OSTI project. It defines internal and external organizational interfaces to include management, performance, and assessment responsibilities. (QAPP, QAP 1-1)

Publicly Released Information – Unclassified information that does not have access restrictions and is eligible for world-wide audiences. (QAP 6-1)

Purchase Order (PO) - A contract negotiated between a supplier and a Sandia Contract Representative (SCR) for commercial products or services. (QAP 4-1)

Purchase Requisition (PR) – The SNL form used to request procurement action. It is also the form used to document a Change Requisition. (QAP 4-1)

QA Program Training – Provided annually, this training is designed to ensure a common understanding of procedures necessary to meet or exceed established QA performance. (QAP 2-1)

QA Record – An authenticated record that provides objective evidence of the quality of items or activities. (QAP 1-1, 17-1)

QA Section - In the Statement of Work (SOW), the QA section prescribes the requirements of the QA Program, such as appropriate QA Procedures, and other applicable orders and documents to which the supplier must comply. The QA section may also require the supplier to develop their own QA Program or to follow SNL OSTI QA procedures. (QAP 4-1)

Qualification (Personnel) – The characteristics or abilities gained through education, training and/or experience as measured against established minimum requirements, such as standards or tests, that qualify an individual to perform a required function. (QAP 2-1, QAP 18-1)

Quality - The condition achieved when an item, service, or process meets or exceeds applicable requirements and user's expectations. (QAP 1-1)

Quality Assurance (QA) - The governing program dictating planned and systematic actions taken during planning and completion of project tasks to provide the required degree of confidence in the final product. (QAPP, QAP 1-1)

Quality Assurance (QA) Program - The program established to assign responsibilities and authorities, define policies and requirements, and provide for the performance and assessment of work. (QAPP)

Readily Available – Refers to documents that may be obtained from libraries or commercial establishments (does not mean immediately accessible). (QAP 17-1)

Readiness Review - An evaluation performed at the direction of management to ensure that prerequisites for critical work have been met, for example, implementing documents and management controls are available and approved, personnel have been suitably trained and qualified, and required equipment is available and ready for use. (QAP 1-1)

Recalled Document – A Controlled Document and its unique document control number that has been removed from use. (QAP 6-2)

Recommendation – Suggestions that are directed toward identifying opportunities for improvement and enhancing methods of implementing quality program requirements. (QAP 18-1)

Record Package – An informal term referring to a collection of records supporting one topic. (QAP 17-1)

Record Source - Any individual performing SNL OSTI activities who generates QA records (also non-QA) for submittal into the SNL CRWM Records Center. (QAP 17-1)

Records – Books, papers, maps, photographs, machine readable materials or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations or other activities of the government or because of the informational value of the data in them. (All QAPs and EIPs)

Reference Review – The process of assuring that all cited references have been properly cited and are readily available. (QAP 6-1)

Referenced Journals – The manuscript peer review and evaluation system that is utilized to protect, maintain, and raise the quality of the scholarly material published in journals. (QAP 6-1)

Regression Testing - Software testing conducted during installation and checkout or after there has been a significant system software or hardware change to verify that the software produces the same results for a given set of inputs as previously documented. (QAP 19-1)

Requester - With regard to procurement, the Sandia employee who requests products or services by initiating a procurement. With regard to parameters, the requester is an inclusive term used for anyone who generates a parameter distribution. (QAP 4-1)

Requirements Document (RD) - A software document that contains the requirements that the product must satisfy, including functionality, design constraints, attributes (including acceptance criteria), and external features. (QAP 19-1)

Responsible Manager (RM) - The SNL manager or their designees that have direct responsibility for the affected activity(ies) and for assuring corrective action implementation. (QAP 16-1, 19-1)

Retention - The period of time during which records must be maintained by an organization because they are needed for operational, legal, fiscal, historical or regulatory purposes. (QAP 17-1)

Review and Approval – Process and form used to review and approve information releases before they are released outside of Sandia. This process ensures a systematic review of content, cataloging of released information, compilation for transmittal to DOE (if applicable), and subsequent documentation of approval. (QAP 6-1)

Reviewer - An independent, qualified person who is competent to perform a review (e.g., technical, QA, ES&H). (QAP 4-1, 5-1, 6-1, 19-1, 20-1)

Review Requester - The individual (Department Manager, Principal Investigator, Project Manager, or Author/Sandia Contact) who initiates a review process. (QAP 6-1)

Root Cause (RC) - A problem that causes an undesirable event or condition. A valid root cause must meet the following three conditions:

1. Event or condition would not have occurred if the problem had not been present.
2. Event or condition probably will not recur due to the same cause if the problem is corrected.
3. Correcting or eliminating the problem probably will prevent similar conditions from occurring. (QAP 16-1)

Root Cause Determination - The systematic process used to identify the most basic reason(s) for an adverse condition, which, if corrected, will preclude recurrence or greatly reduce the probability of recurrence, or similar adverse condition. (QAP 16-1)

Routine Calculations – Simple data manipulations (e.g., unit conversions, interpolations, translations, rotations, or simple analytic solutions). (QAP 20-1, 20-2)

Sample - A physical representative part of a whole or population whose properties are studied to gain information that can be inferred to provide information about the whole or population. Samples include:

- Created samples - materials that are fabricated such as engineered materials (e.g., concrete), simulated brines, mixtures of chemicals and so on;
- Man-made samples - materials such as engineered materials (e.g., concrete); and
- Natural samples - materials collected from the natural environment such as rocks, minerals, soil, fluids, and gases. (QAP 13-1)

Sample Collector – The Principal Investigator (PI) or his designee who creates, collects, and/or submits samples under a sample management system. (QAP 13-1)

Sample Description - This refers to the type of material being transferred using the CoC form. Type of material could include the sample matrix (e.g., soil, water, certified reference material) or the types of sample (grab, composite, liquid, or brine), a box of files, notebooks, computer disks, or QA records. (QAP 13-1)

Sample Possession/Custody – Material that is in the physical control of an individual or testing laboratory. (QAP 13-1)

Sample Transfer – The act of physically releasing and taking possession of sample material from one individual or testing laboratory to another person or testing laboratory. (QAP 13-1)

SAND Document - An official SNL technical publication authorized for outside distribution. It may be a full technical report, abstract, conference paper, journal article, or presentation materials. (QAP 6-1)

Sandia Contracting Representative (Buyer) – Specific SNL Purchasing Department staff who has the authority to obligate SNL to contracts for items/services; often referred to as the “buyer”. (QAP 4-1, 16-1)

Sandia Delegated Representative (SDR) - A Sandia employee authorized by the Sandia Contracting Representative (SCR) to administer certain aspects of a contract and who serves

as the technical contact for the procurement. Often, but not necessarily, the same person as the Requester. (QAP 4-1, 18-1)

Scientific Notebook (SN) - A record of the methodology and results of a scientific investigation when the work involves a high degree of professional judgment, sample collection, a trial-and-error method, or a descriptive activity. (QAP 13-1, 20-1)

SCM Coordinator - Person responsible for overseeing the operation of the SCM system. (QAP 19-1)

Scoping Analyses - Analyses associated with programmatic decisions and applied to the development, implementation or testing of improvements to the existing methodology. Scoping calculations include evaluative efforts regarding features, events, and process (FEPS) screening, conceptual/mechanistic model evaluation, and assessment of grid adequacy.

Sensitivity Analyses – Analyses associated with programmatic decisions and focused on testing the impact of alternative modifications for improving capabilities for conducting performance assessments (PAs) and for communicating and explaining the results of a PA.

Services – An all-inclusive term for performance of activities that include, but are not limited to, site characterization and assessment, site data acquisition, design, fabrication, investigation, analysis, support activities, repair, or installation of equipment. (QAP 4-1)

Shall - Denotes a requirement. (All QAPs and EIPs)

Significant Condition Adverse to Quality (SCAQ) - A condition adverse to quality, if uncorrected, could have serious effect on safety, operability, waste isolation, regulatory compliance demonstration, consistent lack of attention to corrective action, or effective implementation of the OSTI Quality Assurance Program. (QAP 16-1)

Single-Use Software – A software qualification in which the software is qualified for one use (e.g. test plan, analysis plan). (QAP 19-1)

SNL CRWM Records Center – The SNL OSTI facility located in Albuquerque, New Mexico, which receives and manages all SNL OSTI generated or received records. The facility provides acceptance, processing, dual storage protection, and retention or disposition of records. (QAP 17-1)

Software Baseline – An item or product that has been formally reviewed and agreed upon, that serves as the basis for further development, and that can be changed only through formal change control procedures. (QAP 19-1)

Software Configuration Management (SCM) - A system that tracks the software by unique identification, enables the retrieval of the software, tracks changes to the software and its associated documentation, and defines the code retirement process. (QAP 19-1)

Software Validation - The test and evaluation process of determining whether the requirements for a software system or component are complete and correct, the products of each development phase fulfill the requirements or conditions imposed by the previous phases, and the final system or component complies with specified requirements. (QAP 19-1)

Software Verification – The process of determining whether or not the product of a given phase of the software development cycle fulfills the requirements imposed by the previous phase. (QAP 19-1)

Standards – With regard to measuring devices, those devices used to calibrate M&TE or other measurement standards and provide traceability. Measurement standards may be items that are used to provide basic units of measure, such as standard resistors and gauge blocks, or may be materials, such as pH buffer solutions. (QAP 12-1)

Statement of Work (SOW) - The portion of a Request for Quotation or contract that states the requirements or tasks to be performed by the supplier to fulfill contractual obligations. (QAP 1-1, 4-1)

Stop Work Order (SWO) - A directive to immediately stop an activity. (QAP 16-1)

Superseded Document - A Controlled Document that is no longer in effect because it has been revised and reissued under the same document number with a new revision number. (QAP 6-1)

Supplier (Contractor) – An organization or individual that has agreed, by contract or purchase order, to provide products or services to SNL or designated recipient. (QAP 4-1)

Surveillance - The act of monitoring or observing real-time activities and/or reviewing documentation to verify whether an item, activity, system, or process conforms to specified requirements. (QAP 18-1)

Surveillance Team Leader (STL) - A surveillance team leader is an individual designated to lead the conduct of a surveillance and shall be a qualified auditor. (QAP 18-1)

System Administrator - Individual responsible for modifying the system software or hardware of a computer which is used to execute production software. (QAP 19-1)

System Software - Software which is used exclusively in the preparation, installation, or operation of executable software applications. Examples of such software include operating systems, administrative and management systems, system utilities, compilers, assemblers, translators, interpreters, automated protocols, utilities and tools, teleprocessing managers, and query languages. (QAP 19-1)

Technical Information Documents – Documents containing information derived from basic or applied research, development, engineering, technological demonstration, economic and social research, or scientific inquiry into phenomena or technology applications. (QAP 6-1)

Technical Review - A documented, critical evaluation of documents, activities, materials, or data conducted to determine the applicability, correctness, adequacy, and completeness of the information submitted for review. Technical reviews must be performed by one or more qualified personnel who are independent of the work being reviewed and who, collectively, have technical expertise equivalent to those who performed the original work. (QAP 3-1, 4-1, 5-1, 6-1, 19-1, 20-1)

Technical Specialist - An individual who is assigned to an audit or surveillance team when the scope, complexity, or special nature of the work to be audited warrants assistance from a technical standpoint. (QAP 18-1)

Test Plan (TP) - A document that defines the technical scope and the technical requirements of an individual test, experiment, study or major design activity. (QAP 1-1, 20-1)

Traceability – With regard to measuring and test equipment, the ability to relate individual measurement results through an unbroken chain of calibrations to one or more of the following: 1) US national standards maintained by NIST; 2) national standards of other countries which are correlated with US national standards; 3) accepted values of fundamental physical constants; 4) values derived by the ratio type of self-calibration techniques; 5) intrinsic standards based on fundamental constants of nature with values assigned or accepted by NIST; and 6) comparison with consensus standards. For records, the ability to trace the history, application, and location of an item, data, or sample using recorded documentation. (QAP 12-1, 17-1)

Transitioned Software – Software acquired or developed which was not created following life cycle methodology. This type of software may have missing life cycle components and needs to be evaluated and qualified prior to use. (QAP 19-1)

Trend Analysis - The analysis of data to determine repetitive conditions, whether positive or negative, that may constitute a trend. (QAP 16-1)

Triangular Distribution - A distribution useful for random variables constrained to lie between two fixed limits. This distribution peaks at some value between two limits and is characterized by three parameters: Lower Limit, Central Value (Mode), and Upper Limit. The triangular distribution is defined on the range (a, c) and has mode b. The mode can equal either of the two boundary values. (Iman and Shortencarier 1984)

Uniform Distribution – A probability distribution in which the PDF is constant over the range of variable values.

Unique Records – Records that require unique handling because they cannot be duplicated or microfilmed due to their physical form (one-of-a-kind records) or cannot be scanned. (QAP 17-1)

Unpublished Cited Documents – Documents cited in technical reports that are internal documents not available to the public unless submitted to the Records Center. (QAP 6-1)

User's Manual - A document intended for use by a user of the software containing, as applicable, the software name and version identifier, the platform(s), a statement of functional limitations, instructions that describe the user's interaction with the software, the identification and description of input and output specifications and formats, the valid ranges of input data, descriptions of user messages initiated as a result of improper input and how the user can respond, a description of any required training necessary to use the software, and an explanation of the mathematical model(s). (QAP 19-1)

Validation Document (VD) - A software document that contains the results of the performance verification and validation tests defined in the Verification and Validation Plan (VVP) and evaluation of the outputs of those tests to demonstrate that the software produces valid results for problems encompassing the range of permitted usage as defined by the User's Manual. (QAP 19-1)

Variance – The square of the standard deviation of the probability distribution; the standard deviation is a measure of the amount of spread of a distribution about its mean. The variance is a measure of the spread in the data. It is computed as the average squared deviation of each number from its mean.

Verification and Validation Plan (VVP) - A software document that delineates the test processes and associated acceptance criteria to be performed at the end of each software development phase. (QAP 19-1)

2.0 Acronyms

The following is a compilation of the acronyms used in the QAPs and EIPs.

ADC – Authorized Derivative Classifier

ANSI - American National Standards Institute

ASTM - American Society for Testing and Materials

ATL - Audit Team Leader

CAP – Corrective Action Plan

CAQ – Condition Adverse to Quality

CAR - Corrective Action Request

CAV – Corrective Action Verification

CD - Controlled Document

CDA - Corrected During the Audit

CMS - Configuration Management System

CoC - Chain-of-Custody

CPU - Central Processing Unit

CRWM – Civilian Radioactive Waste Management

DAS - Data Acquisition System

DBA – Database Administrator

DD - Design Document

DOE - Department of Energy

DRC - Document Review and Comment Form

EIP - Experimental Implement Procedure

ES&H - Environmental Safety and Health

JIT - Just-in-Time

M&TE - Measurement and Test Equipment

NCSL - National Conference of Standard Laboratories

NQ – Non-quality Assurance

NQA – An ANSI Standard designator

NWM - Nuclear Waste Management

OCRWM - Office of Civilian Radioactive Waste Management

OSTI - Office of Science & Technology and International

PA - Performance Assessment

PI - Principal Investigator

PM - Project Manager

PR - Purchase Requisition

QA - Quality Assurance

QARD - Quality Assurance Program Description

R&A – Review and Approval Form (Sandia) SF 1008-RA

RC - Root Cause

RD - Requirements Document

RFQ - Request for Quotation

RM - Responsible Manager

RS - Record Source

SCAQ – Significant Condition Adverse to Quality

SCM - Software Configuration Management

SCR - Sandia Contracting Representative

SDR - Sandia Delegated Representative

SN - Scientific Notebook

SNL - Sandia National Laboratories

SOW - Statement of Work

SPR - Software Problem Report

SQA - Software Quality Assurance

SW - Software

SWO - Stop Work Order

TP - Test Plan

TR - Technical Reviewer

TWP - Technical Work Plan

UM – User's Manual

VD – Validation Document

VVP - Verification & Validation Plan

WBS - Work Breakdown Structure